

Notice of Allowability	Application No.	Applicant(s)
	10/657,460	DRAXTON ET AL.
	Examiner Yaritza Guadalupe McCall	Art Unit 2859

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. This communication is responsive to Amendment and Terminal Disclaimer filed June 9, 2004.
2. The allowed claim(s) is/are 17-23.
3. The drawings filed on 08 September 2003 are accepted by the Examiner.
4. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All
 - b) Some*
 - c) None
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) hereto or 2) to Paper No./Mail Date _____.
 - (b) including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. Notice of References Cited (PTO-892)
2. Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. Notice of Informal Patent Application (PTO-152)
6. Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. Examiner's Amendment/Comment
8. Examiner's Statement of Reasons for Allowance
9. Other _____.

DETAILED ACTION

In response to Terminal Disclaimer filed June 9, 2004

Reasons for Allowance

1. The following is an examiner's statement of reasons for allowance:
 - a. Claims 17 - 19 are allowable over the Prior Art of Record because it fails to teach or suggest an acoustic signal generator and method for generating an acoustic signal with a high amplitude sudden onset comprising a partition in an intermediate portion of said cylinder dividing said cylinder into front and rear chambers, an axial opening in said partition communicating between said chambers and a pneumatic operating system for charging said rear chamber of said main cylinder with gas at a first high pressure and for charging said rear cylinder with gas at a second high pressure, said pneumatic operating system including a coupling for connection to a source of gas pressure and a remotely operated vent to allow said pressurized gas in said rear cylinder to escape, thereby reducing forwardly directed forces on said intermediate piston in said rear chamber exerted by pressurized gas on said rear piston, below rearwardly directed forces exerted by pressurized gas in said forward chamber against said intermediate seal space in combination with the remaining limitations of the claims.

b. Claims 20 - 21 are allowable over the Prior Art of Record because it fails to teach or suggest a method of generating an acoustic signal having a sharp, high amplitude onset comprising the step of accelerating said plug to high speed prior to unplugging said opening in combination with the remaining limitations of the claims.

c. Claim 22 is allowable over the Prior Art of Record because it fails to teach or suggest a process of determining the arrival time of an acoustic signal propagated through a noisy environment and detected in a receiver comprising digitally pre-filtering said acoustic signals received in said receiver to facilitate differentiation between background noise in said open space and said acoustic signal so as to locate the beginning of said acoustic signal in said background noise; said pre-filtering including a) measuring N consecutive samples of said signal received in said receiver, b) predicting what an N+1th signal will be from the previous N samples, c) measuring said N+1th sample to obtain an actual measured value of said N+1th sample, d) subtracting said predicted N+1th signal from said actual measured N+1th signal value, and e) repeating a) – d) with each new sample taken to produce a small amplitude modified signal having more characteristics of said acoustic signal from said signal generator in combination with the remaining limitations of the claims.

d. Claim 23 is allowable over the Prior Art of Record because it fails to teach or suggest a method of centering a fireball in a boiler furnace comprising the step of separately actuating in rapid succession two signal generators placed in opposite sides of a fire box, and receiving signal produced by said signal generators in two receivers positioned opposite each other and on a plane transverse to a plane through both said signal generators generator in combination with the remaining limitations of the claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yaritza Guadalupe McCall whose telephone number is (571)272-2244. The examiner can normally be reached on 9:00 AM - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F.F. Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Yaritza Guadalupe McCall
Patent Examiner
Art Unit 2859
August 11, 2004



CHRISTOPHER W. FULTON
PRIMARY EXAMINER